Fact Sheet

Lead in School Drinking Water

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Why lead is a health concern for children?

Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult. Drinking water is not usually a significant source of lead for children, but it could contribute to total exposure. Excess amounts of lead in the body can damage the brain, kidneys, nervous system and red blood cells. In children, lead has been associated with impaired mental and physical development, as well as hearing problems. The harmful effects of lead in the body can be subtle and may occur without any obvious signs of lead poisoning.

Why is lead a concern for schools?

Reducing the amount of lead in drinking water as close to zero as possible is an important part of reducing a child's overall exposure to lead in the environment. Typical sources of lead exposure include dust and chips from interior and exterior lead-based paint removal, lead-contaminated soil, industrial sources of lead, and lead-containing materials used in parental occupations or hobbies.

The "on-again, off-again" water use patterns of most schools can result in elevated lead levels in drinking water. Water that remains stagnant in plumbing – overnight, over a weekend, or during a vacation – is in longer contact with lead pipes or lead solders and could contain higher levels of lead.

How does lead get into drinking water?

Lead generally enters drinking water from a building's plumbing system. Lead may be present in various parts of the plumbing system (such as lead solder, brass fixtures, and lead or galvanized pipes) and is picked up by the water sitting in the plumbing system. The amount of lead, if any, in a plumbing system will depend on the materials from which the system was constructed and the pH of the water. The age of the building does not seem to matter when addressing lead concerns and even new plumbing fixtures can leach lead into the drinking water.

The amount of contact time between water and any lead source is the greatest contributing factor to lead in drinking water. The longer water remains standing in the plumbing system, the more lead it can absorb from any lead sources present. For this reason, the lead concentration is at its highest when water has remained unused overnight or over a weekend. Additionally, factors such as water chemistry and temperature can affect the rate at which water absorbs lead.

Are there other contaminants that can be in school drinking water?

Copper, cadmium, and other primary contaminants can leach from plumbing systems into the drinking water and may cause health concerns when levels exceed standards. Zinc and iron may also leach from the plumbing system, however, these elements have secondary non health related standards. When exceeded, they cause aesthetic problems in the water (e.g., taste, odor, clarity, and staining).

How does the Safe Drinking Water Act address lead in schools?

Public and private schools that own/operate their own water system are considered a non-transient, non-community public water system and are subject to the requirements of the federal Safe Drinking Water Act (SDWA). In Washington the Group A Public Water Systems Regulation, Chapter 246-290 WAC requires all non-transient non-community water systems to sample for lead according to the provisions of the SDWA to minimize the risk of exposure to high levels of lead.

How to test for lead in drinking water?

The SDWA Lead and Copper Rule applies only to schools that provide their own water supply. The Office of Drinking Water has a brochure titled Lead and Copper Sampling Procedure that provides a step-by-step description of how to collect a sample for analysis for these types of systems. A similar brochure is being developed for instructions on how to collect water samples within a school building. In general, to test for lead in schools, a 250 ml sample should be collected from the cold-water tap first thing in the morning at sites that are regularly used for drinking or cooking purposes. Samples should then be sent to a state accredited laboratory.

What can be done to reduce lead levels?

Boiling the water will not remove the lead. The following things can be done to reduce lead levels: have staff and students run the water for a few seconds before drinking; remove or replace fixtures that are leaching lead; flush the piping system in the building; provide bottled water; make repairs to the plumbing system; use only the cold water tap for drinking, preparing juice, or cooking; install water treatment, or develop a new water source.

Where can I get more information?

For schools connected to public water systems, contact your water utility, or Washington State Department of Health, Office of Drinking Water at 1-800-521-0323 or visit us online at: http://www.doh.wa.gov/ehp/dw/default.htm

Additional information is available from the Environmental Protection Agency at http://www.epa.gov/safewater/lead/testing.htm#how. For information about the Department of Ecology's Lab Accreditation Program you can visit their Web site at: http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

If you have questions, you can contact Derrick Dennis, Lead and Copper Program Manager, Office of Drinking Water, at 360-236-3122 or derrick.dennis@doh.wa.gov

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